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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/561,334

12/15/2005

Douglas Roberts

US030226

6523

28159 7590 03/03/2009

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EXAMINER

KIMBALL, JEREMIAH T

ART UNIT

PAPER NUMBER

3766

MAIL DATE

DELIVERY MODE

03/03/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/561,334	Applicant(s) ROBERTS ET AL.	
	Examiner Jeremiah T. Kimball	Art Unit 3766	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This action is in response to the amendment after non-final 10 December 2008. Examiner acknowledges Applicant's amendment. **Claims 1-20 are active. Claim 21 is cancelled.**

Claim Objections

2. Applicant's arguments, see Remarks filed 10 December 2008, with respect to the objection of claims 6, 13, 14, 17-19, and 21 have been fully considered and are persuasive. **The objection of claims 6, 13, 14, 17-19, and 21 have been withdrawn.**

Claim Rejections - 35 USC § 103

3. **The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:**

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:**

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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5. **Claims 1-4, 7, 10-14, 17, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lyster et al. (US 2003/0055478) in view of Pihl et al. (US 4,785,812), hereinafter Lyster and Pihl, respectively.**

6. In regards to **claim 1**, Lyster discloses a defibrillator apparatus (Par. 006) comprising: an electrode(s) 150 with attached lead wire; an electrode compartment (i.e. housing 450 or 3050) with an attached conductor (i.e. one of electrodes 150); and an electrode deployment detector (i.e. status measurement unit 2760 and/or the electrode signal management unit 2716 in conjunction with the further disclosed circuitry such as memory 2730, processing unit 2732, etc.) configured for: monitoring a magnitude of an electrical characteristic (i.e. voltage or real impedance/resistance and imaginary impedance/reactance/capacitance) measured from an electrical circuit having, from a source 2712, an electric current path that includes said electrode 150 with attached lead wire, said conductor 150, and a space or other electrical insulator (i.e. release layer 2010) intervening between said conductor and said electrode with attached lead wire, said compartment conductor 150 being disposed in proximity of said electrode with attached lead wire to create capacitance in said electrical circuit; and identifying, based on a change of said magnitude an occurrence of at least one of handling of said electrode with attached lead wire and removing of said electrode with attached lead wire from the compartment (Par. 195-208, 234-243, and 259-262; Fig. 20-21D and 27-30). Even as Lyster implicates said source of electric current being an alternating current source, Lyster fails to explicitly disclose said source as such.

Attention is directed towards the secondary reference of Pihl which discloses a defibrillation apparatus (Fig. 1) able to measure impedance between the defibrillator's electrodes 16,18 by applying an alternating current to the corresponding electrode leads 12,14 in order to monitor the status of the electrodes for electrical stimulation. Pihl further discloses an AC current source (i.e. oscillator 30) supplying the alternating electric current to the circuit path which includes the electrodes, leads, and a dielectric (e.g. air), (Col. 3, Lines 38-49; Col. 4, Lines 20-35; Col. 7, Lines 1-49; Fig. 1). Lyster and Pihl are concerned with the same field of endeavor, namely the design of cardiac defibrillation systems that measure impedance between defibrillation electrodes. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lyster to incorporate an AC current source, as taught in Pihl, in order to identify, based on a change of impedance, an occurrence of at least a handling of a defibrillator electrode with attached lead wire.

7. In regards to **claim 2**, Lyster discloses wherein said electrical circuit is configured so that said magnitude varies with said capacitance (Par. 200).

8. In regards to **claims 3 and 4**, Pihl discloses wherein said electrical circuit includes an integrator 36 in series with said capacitance and a rectifier 160 for rectifying input voltage to the integrator (Col. 5, Line 60 - Col. 8, Line 16).

9. In regards to **claim 7**, the Lyster and Pihl combination disclose wherein the alternating electric current path further includes another electrode and attached lead wire (**Lyster** – Fig. 19 and 20).

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10. In regards to **claim 8**, the Lyster and Pihl combination further disclose wherein the alternating electric current path further comprises an electrically conductive medium (i.e. conductive strip 550) disposed between the electrodes that provides a pathway for flow of electric current from one of the lead wires to the other by means of the electrodes and said medium (**Lyster** - Par. 103; Fig. 5B).

11. In regards to **claim 10**, the Lyster and Pihl combination disclose the apparatus of claim 1 comprising a defibrillator that is configured to issue a sequence of user prompts and to advance from a particular one of the user prompts to a next one of the user prompts upon said identifying (**Lyster** – Par. 243-246; **Pihl** – Col. 4, Line 54 – Col. 5, Line 25).

12. In regards to **claims 11-14, 17, 18 and 20**, claimed subject matter is substantially similar in scope to matter rejected earlier in claims 1-4, 7, 8, and 10, respectively, above; therefore claims 11-14, 17, 18, and 20 are rejected for at least the same reasons by the Lyster and Pihl combination.

13. **Claim 5, 6, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lyster in view of Pihl as applied to claim 1 and 11 above, and further in view of Thu et al. (US 6,336,047), hereinafter Thu.**

14. In regards to **claim 5**, the Lyster and Pihl combination disclose the apparatus of claim 1, except wherein said source periodically shifts between different frequencies of alternation. Attention is directed towards the tertiary reference of Thu, which discloses a system for measuring the positioning of electrode pads for a defibrillator (AED). Thu's system utilizes oscillators 8 (alternating current sources) that emit two different

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frequencies to determine if electrodes are properly positioned, and if so, automatically enters training mode. Thu's device is able to differentiate between the status of the connection between the electrode 1 and the conductor (i.e. sensor 2) and the exact positioning of the electrode (Col. 4, Lines 4-31; Fig. 2-7). Lyster, Pihl, and Thu are concerned with the same field of endeavor, namely the design of cardiac defibrillation systems that measure the impedance of defibrillation electrodes. Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the Lyster and Pihl combination to incorporate AC sources with the ability to periodically shift between different frequencies of alternation, as taught by Thu, in order to monitor the status of defibrillator electrodes and be able to differentiate between handling/removal of the electrodes and a system fault condition.

15. In regards to **claim 6**, the Lyster, Pihl, and Thu combination further discloses wherein said electrical circuit is configured so that said magnitude varies with said capacitance; and wherein said electrode deployment detector is configured to perform said identifying based on at least one of a sum and a difference between measurements of said magnitude that correspond to respective ones of said frequencies (i.e. a function of **Lyster's** integrator 36 or **Thu's** amplifiers 7), (**Lyster** – Col. 5, Line 60 – Col. 6, Line 2; **Thu** – Col. 4, Lines 23-31).

16. In regards to **claims 15 and 16**, claimed subject matter is substantially similar in scope to matter rejected earlier in claims 5 and 6, respectively, above; therefore claims 15 and 16 are rejected for at least the same reasons by the Lyster, Pihl, and Thu combination.

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17. Claims 9 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lyster in view of Pihl as applied to claim 8 and 18 above, and further in view of Matthews et al. (EP 57,561), hereinafter Matthews.

18. In regards to **claim 9**, the Lyster and Pihl combination disclose the apparatus of claim 8, except wherein activation of a source for the electric current from one of the lead wires to the other and activation of said source of alternating current are alternated in a time division manner. Attention is directed towards the tertiary reference of Matthews, which discloses a muscle stimulator comprising: a source of electrical signals; a plurality of electrodes adapted to be applied adjacent respective locations on the epidermis of a person to stimulate underlying muscles; the source of electrical signals comprising a pulse generator for producing a train of muscle stimulating pulses which are sequentially applied by a time division multiplexer 15-18 to electrode pairs (Abstract, Par. 1 ; Fig. 1). Lyster, Pihl, and Matthews are concerned with the same field of endeavor, namely the design of therapeutic devices for delivering electrical stimulation to muscles using electrodes placed on the surface of the skin. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Lyster and Pihl combination to incorporating a means for implementing time division current flow between different groups of electrodes/conductors, as taught by Matthews, in order to alternate between two activation modes for the alternating current source.

19. In regards to **claim 19**, claimed subject matter is substantially similar in scope to matter rejected earlier in claim 9 above; therefore claim 19 is rejected for at least the same reasons by the Lyster, Pihl, and Matthews combination.

Response to Arguments

20. **Applicant's arguments filed 10 December 2008 have been fully considered but they are not persuasive.**

21. In regards to Applicant's amendments to claims 1 and 11, Applicant's arguments with respect to claims 1-3, 7, 8, 10-14, 17, 18, and 20 have been considered but are moot in view of the new ground(s) of rejection.

22. In regards to Applicant's arguments concerning Matthews and Thu, Examiner discloses the appropriate logic for combining these references with the Lyster and Thu combination in the above rejections.

23. In further regards to Applicant's arguments concerning Thu's applicability to the present claimed invention, Examiner wants to point out that Applicant's specification (Pg. 8, Lines 9-26) acknowledges that the principles of the present invention are able to be applied in training users to place the electrode pads on the exterior of training mannequins with electrical elements proximally embedded within the mannequin, as is also taught in Thu reference.

24. Therefore, **Applicant's arguments are not persuasive in view of the rejections and response to arguments clearly articulated above.**

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremiah T. Kimball whose telephone number is (571)270-7029. The examiner can normally be reached on 8am-6:30pm Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl H. Layno can be reached on 571-272-4949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Carl H. Layno/
Supervisory Patent Examiner, Art Unit 3766

/J. T. K./
Examiner, Art Unit 3766
February 26, 2009